AWMO CC: RAIDRA ICNSL



February 29, 2012

MAR 02 2012 APCO

Chief, Environmental Enforcement Section Environment and Natural Resources Division U.S. Department of Justice P.O. Box 7611, Ben Franklin Station 601 D Street Washington, D.C. 20044-7611 DJ# 90-5-2-1-08242

Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Ariel Rios Building [2242A]
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Regional Administrator U.S. EPA Region VII 901 North 5th Street Kansas City, Kansas 66101

Section Chief, Compliance and Enforcement Section Bureau of Air and Radiation Kansas Department of Health and Environment 1000 SW Jackson, Suite 310 Topeka, Kansas 66612-1366

RE: U.S. v. Westar Energy, Inc., 09-CV-2059 JAR/DJW Consent Decree Semi-Annual Progress Report

#### Dear Dear Sir or Madam:

Attached hereto for your review is the Periodic Progress Report of Westar Energy, Inc. This report is submitted in compliance with Paragraph 113 of the Consent Decree in the above matter.

This Periodic Progress Report covers the period beginning July 1, 2011 through December 31, 2011. This Periodic Progress Report has been certified by Westar Energy

Inc.'s Designated Representative, John Bridson, who is the Responsible Official under the Title V Program for our Acid Rain Program Affected Sources.

Should you have any question regarding this Progress Report, please do not hesitate to contact me at 787-575-1614 or e-mail me at <u>Dan.Wilkus@westarenergy.com</u>.

Sincerely,

WESTAR ENERGY, INC.

Daniel R. Wilkus, P.E. Director, Air Programs

#### PERIODIC REPORT OF WESTAR ENERGY, INC.

PURSUANT TO PART XI OF THE CONSENT DECREE ENTERED IN CIVIL ACTION NO. 09-CV-2059 FOR THE PERIOD July 1, 2011 THROUGH December 31, 2011

Westar Energy, Inc. ("Westar") submits this Progress Report pursuant to Sections VIII, XI and Appendix A of the Consent Decree entered in *United States of America and State of Kansas v. Westar Energy, Inc.*, Civil Action Number 09-CV-2059 (the "Consent Decree"). This Progress Report covers the period beginning July 1, 2011 through December 31, 2011 (the "Report Period").

In accordance Sections VIII, XI and Appendix A of the Consent Decree, Westar must provide the following information in this Periodic Report.

- a. All information necessary to determine compliance with the requirements of the following paragraphs of the Consent Decree: Paragraphs 50 through 68 concerning NO<sub>x</sub> emissions monitoring, and the surrender of NO<sub>x</sub> Allowances; Paragraphs 69 through 81 concerning SO<sub>2</sub> emissions and monitoring, and the surrender of SO<sub>2</sub> Allowances; and Paragraphs 82 through 87 concerning PM emissions and monitoring. Westar shall include in these reports all data for which the bias adjustment factor has been excluded pursuant to Paragraphs 67 and 80;
- All data recorded by the PM CEMS as required by Paragraph 91, and all periods of monitor Malfunction, maintenance, and/or repair as provided in Paragraph 88;
- c. All information relating to Super-Compliance NO<sub>x</sub> and SO<sub>2</sub> Allowances that have been generated in accordance with Paragraphs 64 and 76 through compliance beyond the requirements of the Consent Decree;
- d. All information indicating that the installation and commencement of operation for a pollution control device may be delayed, including the nature and cause of the delay, and any steps taken by Westar to mitigate such delay; and
- e. All information relating to the NO<sub>x</sub> Offset Requirements pursuant to Paragraph 121.
- f. Written reports detailing the progress of each environmental mitigation plan project, including accounting of Project Dollars spent to date, as provided in item C of Appendix A.
- I. Compliance status with Paragraphs 50 through 68 NO<sub>x</sub> Emissions and Monitoring, and Surrender of NO<sub>x</sub> Allowances.

Paragraph 50 – Westar was in compliance with the optimization requirements in Paragraph 50 during the Report Period. Prior to and by December 31, 2011, Westar timely began continuously operating the Low NOx Combustion Systems

at JEC Units 1 and 3 to achieve the 30-day Rolling Average Unit Emission Rate for NOx of no greater than 0.180 lb/mmbtu. <u>Attachment A</u> contains the 30-day rolling average unit emission rate data for JEC Units 1 and 3.

**Paragraph 51** – Westar installed the required new Low NO<sub>x</sub> Combustion System on JEC Unit 2 in an outage prior to December 31, 2011 and began continuously operating it. Westar maintained compliance with the 30-day rolling average unit emission rate of 0.180 lb/mmbtu by December 31, 2011. <u>Attachment A</u> contains the 30-day rolling average unit emission rate data for JEC Unit 2.

Paragraph 52 – Westar continuously operated the existing Low NO<sub>x</sub> Combustion Systems on JEC Units 1 and 3, and, after installation, the newly installed system on Unit 2, at all times the Units were operating, consistent with technological limitations, manufacturers' specifications, and good engineering and maintenance practices for the systems during the time periods required by the Consent Decree during the Report Period.

Paragraph 53-54 — Westar is on schedule to install and commence continuous operation of an SCR on one of the JEC Units no later than December 31, 2014.

Paragraph 55 – On June 24, 2010, Westar engaged an engineering firm to assist Westar in testing, evaluating, and analyzing other NO<sub>x</sub> reduction technologies for JEC, including SNCR. This evaluation is ongoing in accordance with this paragraph, and Westar anticipates the continued evaluation of alternate technologies through 2011 and 2012. During this Report Period, Westar applied for and received KDHE approval for the installation of an SNCR on JEC Unit 3. Installation is scheduled for Spring/Summer 2012. In addition, during this Report Period, Westar applied for KDHE approval for modification to the existing Low NOx Burner (LNB) System on JEC Unit 3. The LNB upgrades are also scheduled for Spring/Summer 2012. The installation of the SNCR and LNB upgrades will allow for further evaluation of the NOx reduction capabilities of these technologies.

**Paragraphs 56, 57, 58, 59** – These paragraphs contain future compliance requirements for which no update is required during this Report Period.

**Paragraph 60** – Westar was in compliance with the use of NO<sub>x</sub> Allowances requirements in Paragraph 60 during the Report Period.

Paragraphs 61, 62, 63, 64, 65, 66 –These paragraphs contain NOx surrender requirements for which no update is required during this Report Period.

Paragraphs 67 and 68 – Prior to December 31, 2011, Westar began compliance with the NOx monitoring provisions of Paragraph 67 for the NOx 30-Day Rolling Average Emission Rates applicable to JEC Units 1, 2, and 3. Paragraph 68

contains NOx monitoring provisions pertaining to future compliance requirements for which no update is required during this Report Period.

II. Compliance status with Paragraphs 69 through 81 – SO<sub>2</sub> Emission and Monitoring, and Surrender of SO<sub>2</sub> Allowances.

Paragraph 69 – Westar began monitoring and recordkeeping for the Plant-Wide 12-month rolling tonnage limitation for SO<sub>2</sub> on June 1, 2010. Westar began timely complying with the Plant-Wide 12-month rolling tonnage limitation for SO<sub>2</sub> on June 24, 2010, ninety days after Consent Decree entry. Westar was in compliance with the Plant-Wide 12-month rolling tonnage limitation on June 24, 2011, twelve months after the date of commencement of the limitation in accordance with paragraph 177. Westar first demonstrated compliance with the limitation on June 1, 2011, as agreed to by USEPA Region VII and the Kansas Department of Health and Environment during Westar's initial kick-off meeting on April 28, 2010. On December 1, 2011, the SO<sub>2</sub> 12-month rolling tonnage emission rate recorded by Westar was 1560.95 tons which is well under the 6,600 ton SO<sub>2</sub> 12-month rolling tonnage limitation contained in Paragraph 69. Attachment B contains the Plant-Wide SO<sub>2</sub> 12-month rolling tonnages during this Report Period.

**Paragraph 70** – During the Report Period, Westar continuously operated FGDs on all three Units to achieve and maintain a SO<sub>2</sub> 30-Day Rolling Average Unit Emission Rate for Units 1, 2 and 3 of no greater than 0.070 lb/mmBtu.

<u>Attachment C</u> contains the SO<sub>2</sub> 30-Day Rolling Average Unit Emission Rate for Units 1, 2 and 3 during the Report Period.

**Paragraph 71** – During the Report Period, Westar operated each FGD at all times in which the Unit was operating, consistent with the technological limitations, manufacturers' specifications, and good engineering and maintenance practices for the FGDs to minimize emissions to the extent practicable.

Paragraph 72 – Westar was in compliance with the use of SO<sub>2</sub> Allowances requirements in Paragraph 72 during the Report Period.

Paragraphs 73, 74, 75, 76, 77, 78 and 79 – These paragraphs contain SO<sub>2</sub> surrender requirements for which no update is required during this Report Period.

**Paragraph 80** – During the Report Period, Westar used SO<sub>2</sub> continuous emission monitors (CEMs) in accordance with Paragraph 80 in order to calculate the SO<sub>2</sub> 30-Day Rolling Average Unit Emission Rate for each Unit. <u>Attachment D</u> contains all hourly SO<sub>2</sub> data for which the bias adjustment factor has been excluded. After the Report Period, Westar discovered and immediately notified EPA and KDHE that the annual RATA for JEC Unit 1 did not comply with the accuracy requirement outlined in Condition 4. The other JEC units were in

compliance with all provisions of this Paragraph. EPA, KDHE, and Westar discussed this event in detail on a telephone conference held on February 23, 2011. For additional details, please see the Deviation Notification Letter dated February 27, 2012. Upon discovery, Westar immediately performed a new RATA after the Report Period. The preliminary results of the new RATA indicate that it complies with Part 75 and Paragraph 80, Condition 4 of the Consent Decree. Westar anticipates scheduling another RATA test to satisfy annual Title V and Consent Decree requirements for 2012 later this Spring.

**Paragraph 81** – During the Report Period, Westar used CEMs in accordance with Paragraph 81 to calculate the Plant-Wide 12-Month Rolling Tonnage limitation for SO<sub>2</sub>. <u>Attachment B</u> contains the SO<sub>2</sub> Plant-Wide 12-month rolling tonnages during this Report Period.

## III. Compliance Status with Paragraphs 82 through 87 – PM Emission and Monitoring.

Paragraph 82 – During the Report Period, Westar operated each ESP and FGD system on each JEC Unit, with the exception for Unit 3 as discussed below, to maximize the PM emission reductions at all times when the Units were in operation, consistent with technological limitations, manufacturers' specifications, and good engineering and maintenance practices in accordance with this paragraph. On August 22 and 23, 2011 the transformer/rectifiers (TRs) for the electrostatic precipitator went out of service while Unit 3 was on-line. Upon discovery, the problem was cured immediately by reactivating all TRs, which allowed the ESP to resume normal service. Steps were also taken to prevent this type of event from occurring in the future. On September 6, 2011, pursuant to Paragraph 115 of the Consent Decree, Westar provided written notice of the failure to EPA. EPA responded to the notice on October 18, 2011.

Paragraphs 83 – Westar rebuilt the JEC Unit 2 ESP during the Spring 2011 maintenance outage, achieving early compliance with the requirements in this Paragraph. Performance testing was conducted on June 16, 2011, satisfying the requirement to conduct the testing within 270 days after rebuilding the ESP. The results of the compliance testing were submitted on August 10, 2011. Westar is on schedule to complete the JEC Unit 1 ESP rebuild prior to December 31, 2013.

Paragraph 84 – In addition to continuously operating the ESPs and FGD system at each JEC Unit, with the exceptions for Unit 3 noted above, Westar operated the Units in accordance with this provision and demonstrated compliance with the 0.030 lb/mmBTU PM emission limit during stack testing which was conducted in June 2011. The results of these tests were submitted to EPA on August 10, 2011.

Paragraphs 85, 86 and 87 - The required compliance and condensable testing as outlined in these paragraphs was conducted on June 14, 2011 (Unit 1), June 15, 2011 (Unit 3) and June 16, 2011 (Unit 2). The results of these tests were submitted to EPA on August 10, 2011. These tests complied with the reference measures and procedures in Paragraphs 86 and 87.

IV. Compliance Status with Paragraphs 88 and 91 – all data recorded by PM CEMs, and all periods of monitor malfunction, maintenance and/or repair.

Paragraphs 88 – Westar installed and correlated a PM CEMS for JEC Unit 2 prior to December 31, 2011, demonstrating early compliance with the Consent Decree. The PM CEMS is maintained and operated as specified in the Consent Decree. Attachment E contains a summary of all periods of monitor malfunction, maintenance, and/or repair during the Report Period. The data in this Attachment is submitted voluntarily, as it pertains to data prior to December 31, 2011.

**Paragraph 89** – On January 18, 2011, Westar submitted to KDHE and EPA a plan for the installation and correlation of the PM CEMs. The plan was submitted no later than 90 days prior to installation of the PM CEMs.

Paragraph 90 – On March 4, 2011, Westar submitted to KDHE and EPA a proposed Quality Assurance/Quality Control (QA/QC) protocol for the PM CEMs. The plan was submitted no later than 45 days prior to installation of the PM CEMs.

Paragraph 91 – Attachment F contains a CD with the data recorded by the PM CEMs during this Report Period. The data is expressed in lb/mmBtu on a 3-hour rolling average basis. The data from July 1, 2011-December 30, 2011 in this Attachment is being voluntarily submitted.

V. All information related to Super-Compliant NO<sub>x</sub> and SO<sub>2</sub> Allowances that Westar claims to have generated in accordance with Paragraphs 64 and 76.

**Paragraphs 64 and 76** – These Paragraphs contain requirements for which no update is required during this Report Period. No compliance related information is available and necessary to report at this time.

VI. All information indicating that the installation and commencement of operation for a pollution control device may be delayed.

During this Report Period, there were no indications of any delays of the installation or operation of any pollution control devices required by this Consent Decree.

### VII. All information relating to the NO<sub>x</sub> Offset Requirements pursuant to Paragraph 121.

This Paragraph did not apply during this Report Period because Westar did not receive a written demand for stipulated penalties. No compliance related information is available and necessary to report at this time.

#### VIII. Compliance Status with Appendix A and the USEPA-approved Environmental Mitigation Project Plans

Pursuant to the correspondence between EPA and Westar dated November 12, 2010, Westar is submitting its report related to environmental mitigation projects (the "Projects") consistent with its schedule for periodic reports in Paragraph 113 of the Consent Decree. This end year report contains a more detailed report concerning the implementation of the Projects. The mid-year report will be a shorter report concerning these Projects.

In accordance with Appendix A, Paragraph I.C, Westar provides the following information detailing the progress of each Project it has elected. Below, Westar provides an annual accounting of Project Dollars spent for each project. In correspondence between Westar and EPA dated July 26, 2010, Westar elected to participate in the Clean Diesel Retrofit Project, the Third Party Wind Generation Project and the Fleet Conversion Project. Westar is also reserving \$600,000 for a potential plug-in hybrid infrastructure project and will be submitting a plan in accordance with Appendix A of the Consent Decree. Westar elected not to pursue or submit a plan concerning an advanced truck stop electrification project.

#### Fleet Conversion Project Plan

On September 2, 2010, USEPA approved Westar's Fleet Conversion Project Plan.

During this Report Period, Westar purchased and took delivery of five Chevrolet Silverado hybrid pickup trucks as referenced in Section 3.1.4 of the Plan. In addition, during this Report Period, Westar has taken delivery of five Ford Fusion hybrids and four Ford Transit Connect electric vehicles, as referenced in Sections 3.2 and 3.3 of the Plan respectively.

With the constantly changing and emerging hybrid/electric vehicle technology, Westar has re-evaluated the anticipated schedule contained in Appendix A of the Plan. For calendar year 2012, Westar plans to purchase one Ford Focus electric vehicle and ten Chevrolet Volts as referenced in Section 3.2 of the Plan. Westar plans to purchase eighteen hybrid light duty pickup trucks as referenced in Section 3.1.4 of the Plan. Westar also plans to purchase two JEMS Hybrid 37 foot bucket trucks and three hybrid 41 foot bucket trucks as referenced in Section 3.5 of the Plan.

In Calendar year 2012, Westar is scheduled to retrofit the engine of a coal handling dozer at our Tecumseh Energy Center. Dozer 824C is identified in line item 3 of Appendix A of the Plan. Westar proposes to substitute Dozer 824G at Tecumseh Energy Center for 824C. Dozer 824G is utilized 90 percent of the time and this retrofit will lead to greater environmental mitigation of emissions. At the current time, only a Tier 2 upgrade is available for this engine.

During calendar year 2011, which includes this Report Period, Westar spent \$527,115.57 on the Fleet Conversion Project which included \$314,847.39 during this Report Period.

Westar is on schedule to complete the entire Fleet Conversion Project by March 26, 2015.

#### Third Party Wind Generation Project Plan

On September 2, 2010, USEPA approved Westar's Third-Party Wind Generation Project Plan.

On December 16, 2010, Westar entered into an Agreement with the Unified School District (USD) 501 in Topeka, Kansas, to donate at least \$200,000 and up to \$250,000 toward the purchase and installation of a 100 kW electric generation wind turbine ("wind turbine"). On December 21, 2010, Westar contributed \$200,000 to USD 501. The wind turbine will be located at USD 501's property known as the "KANZA Business and Technology Park" located in Topeka, Kansas. During this Report Period, Topeka USD 501 initiated site preparation for construction of the wind turbine at the KANZA Business and Technology Park. Westar anticipates construction to be complete in Spring 2012.

Also during this Report Period, Westar selected the Kansas Wind for Schools Program at Kansas State University, Department of Electrical and Computer Engineering as an outside consultant to facilitate solicitation of applications and assistance to interested schools. Westar received applications from 11 schools requesting wind turbine funding in 2012. Westar and Wind for Schools selected four schools to fund based on adequate wind resources, location, community and utility support, and a commitment to incorporate the turbine and accompanying data into their curricula. Westar anticipates approximately \$120,000 funding to these schools in 2012.

The total Project Dollars spent during calendar year 2011, including this Report Period, for the Third Party Wind Generation Project was \$0.

Westar is on schedule to complete the entire Third Party Wind Generation Project by March 26, 2015.

#### Clean Diesel Retrofit Project Plan

On September 2, 2010, USEPA approved Westar's Clean Diesel Retrofit Project Plan.

Westar has selected an outside consultant to help effectively manage this project. On April 4, 2011, Westar entered into a contract with the Kansas Association of Conservation and Environmental Education (KACEE) to facilitate this project on Westar's behalf. KACEE is an organization that is well positioned to work with all stakeholders and help Westar navigate through the retrofitting process.

During the Report Period, Westar and KACEE received preliminary applications from three school districts -- El Dorado USD 490, Andover USD 385, and Remington USD 206. Westar reviewed and accepted the preliminary applications requesting that each District submit a final application by April 1, 2012. Preliminary applications seek to retrofit 52 school buses using diesel oxidation catalysts, crankcase filtration systems, and fuel operated heaters. Pending review of final applications, Westar anticipates providing approximately \$240,000 in funding to these Districts by June 2012, with retrofit implementation to occur prior to the start of Fall 2012 school year.

The total Project Dollars spent during calendar year 2011, including this Report Period, for the Clean Diesel Retrofit Project was \$19,116.

Westar is on schedule to complete all diesel school bus retrofits by March 26, 2013.

#### Plug-In Hybrid Infrastructure

Westar is in the process of finalizing a project plan for submittal to USEPA.

This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.

John Bridson

Vice President, Generation

# Attachment A JEC Units 1, 2 and 3 NOx 30-Day Rolling Average Unit Emission Rate December 31, 2011

#### Average Data

Plant: Westar Energy - Jeffrey Energy Center Interval: 30 Day

Type: Roll

Report Period: 12/31/2011 00:00 Through 12/31/2011 23:59

Time Online Criteria: 1 minute(s)

Source	BOILER01	BOILER02	BOILER03
Parameter )Unit(	NOX#/M30 (LB/MMBTU)	NOX#/M30 (LB/MMBTU)	NOX#/M30 (LB/MMBTU)
12/31/11 00:00	0.134	0.138	0.149
Averag	ge 0.134	0.138	0.149
Minimu	m 0.134	0.138	0.149
Maximu	m 0.134	0.138	0.149
Summatio	on 0.134	0.138	0.149
Included Dat Poin		1	1
Total number of Data Poin		1	1

F = Unit Offline

E = Exceedance

C = Calibration

S = Substituted

U - Startup

I = Invalid M = M Report Generated: 02/23/12 08:35

M = Maintenance

T = Out Of Control

\* = Suspect

D - Shutdown

#### Attachment B SO2 Plant-Wide 12-Month Rolling Tonnage July 1, 2011 through December 31, 2011

#### Average Data

Plant: Westar Energy - Jeffrey Energy Center Interval: 12 Month

Type: Roll
Report Period: 07/01/2011 00:00 Through 12/31/2011 23:59
Time Online Criteria: 1 minute(s)

Source Parameter (Unit)		JEFFREY
		SO2TONS (TONS)
07/01/11	00:00	1,402.0035
08/01/11	00:00	1,392.6494
09/01/11	00:00	1,425.1038
10/01/11	00:00	1,460.2664
11/01/11	00:00	1,526.9308
12/01/11	00:00	1,560,9505

Average	1,461.3174
Minimum	1,392.6494
Maximum	1,560.9505
Summation	8,767.9044
Included Data	6

F = Unit Offline E = Exceedance I = Invalid M = Maintenance Report Generated: 02/10/12 08:47

C = Calibration S = Substituted T = Out Of Control \* = Suspect Report Version 3.1.1130

#### Attachment C SO2 30-Day Rolling Average Unit Emission Rate July 1, 2011 through December 31, 2011

#### Average Data

Plant: Westar Energy - Jeffrey Energy Center Interval: 30 Day

Type: Roll
Report Period: 07/01/2011 00:00 Through 12/31/2011 23:59
Time Online Criteria: 1 minute(s)

Source	BOILER01	BOILER02	BOILER03
Parameter	SO2#/M30 (LBS)	SO2#/M30 (LBS)	SO2#/M30 (LBS)
(LInit)			
07/01/11 00:00	0.016	0.023	0.045
07/02/11 00:00	0.016	0.024	0.046
07/03/11 00:00	0.016	0.024	0.046
07/04/11 00:00	0.016	0.024	0.046
07/05/11 00:00	0.017	0.024	0.047
07/06/11 00:00	0.017	0.024	0.046 0.046
07/07/11 00:00	0.017	0.023	0.046
	0.017	0.023	0.047
07/09/11 00:00		0.023	0.047
07/10/11 00:00	0.018 0.018	0.023	0.045
07/11/11 00:00	0.018	0.023	0.045
07/13/11 00:00	0.018	0.023	0.045
07/14/11 00:00	0.019	0.022	0.043
07/15/11 00:00	0.019	0.023	0.044
07/16/11 00:00	0.019	0.023	0.044
07/17/11 00:00	0.019	0.023	0.043
07/17/11 00:00	0.019	0.023	0.043
07/19/11 00:00	0.019	0.022	0.043
07/19/11 00:00	0.019	0.022	0.042
07/20/11 00:00	0.019	0.022	0.041
07/22/11 00:00	0.019	0.021	0.040
07/23/11 00:00	0.019	0.021	0.039
07/24/11 00:00	0.019	0.021	0.038
07/25/11 00:00	0.019	0.021	0.037
07/26/11 00:00	0.019	0.021	0.037
07/27/11 00:00	0.019	0.021	0.036
07/28/11 00:00	0.018	0.020	0.035
07/29/11 00:00	0.018	0.020	0.034
07/30/11 00:00	0.019	0.019	0.033
07/31/11 00:00	0.018	0.019	0.033
08/01/11 00:00	0.018	0.018	0.032
08/02/11 00:00	0.018	0.018	0.031
08/03/11 00:00	0.019	0.018	0.031
08/04/11 00:00	0.019	0.018	0.030
03/05/11 00:00	0.019	0.017	0.030
08/06/11 00:00	0.019	0.017	0.030
08/07/11 00:00	0.019	0.017	0.029
08/08/11 00:00	0.019	0.017	0.028
08/09/11 00:00	0.019	0.017	0.028
08/10/11 00:00	0.019	0.016	0.028
08/11/11 00:00	0.019	0.016	0.028
08/12/11 00:00	0.019	0.016	0.028
08/13/11 00:00	0.019	0.016	0.028
08/14/11 00:00	0.019	0.016	0.028
08/15/11 00:00	0.019	0.015	0.028
08/16/11 00:00	0.018	0.015	0.028
08/17/11 00:00	0.018	0.015	0.028
08/18/11 00:00	0.018	0.015	0.028
08/19/11 00:00	0.019	0.015	0.028
08/20/11 00:00	0.019	0.015	0.028
08/21/11 00:00	0.019	0.016	0.028
08/22/11 00:00	0.019	0.017	0.027
08/23/11 00:00	0.019	0.017	0.027
08/24/11 00:00	0.019	0.017	0.027
08/25/11 00:00	0.019	0.017	0.027
08/26/11 00:00	0.019	0.017	0.026
08/27/11 00:00	0.020	0.017	0.026

F = Unit Offline

E = Exceedance

I = Invalid

M = Maintenance

Report Generated: 02/10/12 09:03

C = Calibration

S = Substituted

T = Out Of Control

\* = Suspect

Report Version 3.1.1130

08/28/11	00:00	0.020	0.017	0.025
08/29/11	00:00	0.020	0.017	0.024
08/30/11	00:00	0.019	0.017	0.024
08/31/11	00:00	0.019	0.017	0.024
09/01/11	00:00	0.019	0.017	0.024
09/02/11	00:00	0.019	0.017	0.023
09/03/11	00:00	0.019	0.017	0.023
09/04/11	00:00	0.018	0.017	0.023
09/05/11	00:00	0.017	0.017	0.023
09/07/11	00:00	0.017	0.017	0.023
09/08/11	00:00	0.017	0.017	0.023
09/09/11	00:00	0.016	0.017	0.023
09/10/11	00:00	0.016	0.017	0.023
09/11/11	00:00	0.016	0.017	0.023
09/12/11	00:00	0.015	0.017	0.022
09/13/11	00:00	0.015	0.017	0.022
09/14/11	00:00	0.015	0.017	0.022
09/15/11	00:00	0.014	0.017	0.021
09/16/11	00:00	0.014	0.017	0.021
09/17/11	00:00	0.014	0.016	0.020
09/18/11	00:00	0.013	0.016	0.019
09/19/11	00:00	0.013	0.016	0.018
09/20/11	00:00	0.013	0.015	0.018
09/21/11	00:00	0.013	0.014	0.017
09/22/11	00:00	0.013	0.014	0.017
09/23/11	00:00	0.012	0.014	0.016
09/24/11	00:00	0.012	0.013	0.016
09/25/11	00:00	0.011	0.013	0.016
09/26/11	00:00	0.011	0.013	0.016
09/27/11	00:00	0.011	0.013	0.016
09/28/11	00:00	0.011	0.013	0.016
09/29/11	00:00	0.012	0.013	0.016
09/30/11	00:00	0.012	0.013	0.017
10/01/11	00:00	0.012	0.013	0.017
10/02/11	00:00	0.013	0.013	0.017
10/03/11	00:00	0.013	0.013	0.017
10/04/11	00:00	0.013	0.013	0.016
10/05/11	00:00	0.014	0.013	0.018
10/06/11	00:00	0.014	0.013	0.015
10/07/11	00:00	0.014	0.013	0.015
10/08/11	00:00	0.014	0.014	0.015
10/09/11	00:00	0.015	0.014	0.014
10/10/11	00:00	0.015	0.014	0.014
10/11/11	00:00	0.015	0.014	0.014
10/12/11	00:00	0.015	0.014	0.014
10/13/11	00:00	0.016	0.014	0.014
10/14/11	00:00	0.016	0.015	0.014
10/15/11	00:00	0.016	0.015	0.014
10/16/11	00:00	0.016	0.015	0.014
10/17/11	00:00	0.016	0.015	0.014
10/18/11	00:00	0.016	0.015	0.014
10/19/11	00:00	0.016	0.015	0.014
10/20/11	00:00	0.016	0.015	0.015
10/21/11	00:00	0.016	0.015	0.015
10/22/11	00:00	0.017	0.016	0.015
10/23/11	00:00	0.018	0.016	0.015
10/24/11	00:00	0.019	0.016	0.016
10/25/11	00:00	0.020	0.016	0.016
10/26/11	00:00	0.021	0.016	0.016
10/27/11	00:00	0.022	0.017	0.016
10/28/11	00:00	0.023	0.017	0.016
10/29/11	00:00	0.023	0.017	0.016
	00:00	0.022	0.017	0.016
10/30/11		0.022	0.017	0.017
10/31/11	00:00			
10/31/11 11/01/11	00:00	0.022	0.017	0.017
10/31/11 11/01/11 11/02/11	00:00 00:00	0.022	0.017	0.017
10/31/11 11/01/11 11/02/11 11/03/11	00:00 00:00 00:00	0.022 0.023	0.017 0.017	0.017 0.017
10/31/11 11/01/11 11/02/11	00:00 00:00	0.022	0.017	0.017

F = Unit Offline
E = Exceedance
I = Invalid
M = Maintenance
Report Generated: 02/10/12 09:03

C = Calibration
S = Substituted
T = Out Of Control
\* = Suspect
Report Version 3.1.1130

11/06/11	00:00	0.025	0.017	0.017
11/07/11	00:00	0.025	0.017	0.017
11/08/11	00:00	0.026	0.017	0.018
11/09/11	00:00	0.026	0.017	0.018
11/10/11	00:00	0.027	0.017	0.018
1/11/11	00:00	0.028	0.017	0.018
1/12/11	00:00	0.028	0.017	0.019
1/13/11	00:00	0.029	0.017	0.019
1/14/11	00:00	0.030	0.017	0.019
1/15/11	00:00	0.030	0.017	0.019
1/16/11	00:00	0.031	0.017	0.019
1/17/11	00:00	0.031	0.017	0.019
1/18/11	00:00	0.031	0.017	0.019
1/19/11	00:00		0.017	0.019
1/20/11	00:00	0.033	0.017	0.019
1/21/11	00:00	0.033	0.017	0.019
1/22/11	00:00	0.032	0.017	0.019
1/23/11	00:00	0.031	0.017	0.018
1/24/11	00:00	0.031	0.017	0.018
1/25/11	00:00	0.031	0.017	0.018
1/26/11	00:00	0.030	0.017	0.018
1/27/11	00:00	0.030	0.018	0.018
1/28/11	00:00	0.030	0.018	0.018
1/29/11	00:00	0.030	0.019	0.018
1/30/11	00:00	0.030	0.019	0.018
2/01/11	00:00	0.030	0.019	0.018
2/02/11	00:00	0.030	0.019	0.018
2/03/11	00:00	0.030	0.019	0.018
2/04/11	00:00	0.030	0.019	0.019
2/05/11	00:00	0.029	0.019	0.020
2/06/11	00:00	0.029	0.019	0.020
2/07/11	00:00	0.028	0.019	0.020
2/08/11	00:00	0.027	0.019	0.020
2/09/11	00:00	0.028	0.019	0.020
2/10/11	00:00	0.028	0.019	0.020
2/11/11	00:00	0.027	0.019	0.020
	180000010000	0.027	0.019	0.019
2/12/11	00:00			
2/13/11	00:00	0.027	0.019	0.020
2/14/11	00:00	0.027	0.019	0.020
2/15/11	00:00	0.026	0.019	0.020
2/16/11	00:00	0.027	0.020	0.021
2/17/11	00:00	0.027	0.020	0.022
2/18/11	00:00	0.027	0.020	0.022
2/19/11	00:00	0.027	0.020	0.023
2/20/11	00:00	0.027	0.020	0.024
2/21/11	00:00	0.027	0.021	0.024
2/22/11	00:00	0.027	0.021	0.025
2/23/11	00:00	0.026	0.021	0.025
2/24/11	00:00	0.025	0.021	0.026
2/25/11	00:00	0.025	0.021	0.026
2/26/11	00:00	0.024	0.021	0.026
2/27/11	00:00	0.024	0.021	0.027
2/28/11	00:00	0.024	0.020	0.027
2/29/11	00:00	0.023	0.020	0.027
2/30/11	00:00	0.023	0.019	0.027
2/30/11	00:00	0.023	0.019	0.027
2/31/11	00:00	0.022	0.019	0.028
	Average	0.021	0.018	0.024
	Minimum	0.011	0.013	0.014
	Maximum	0.033	0.024	0.047
S	ummation	3.784	3.253	4.470
included Data Total number of		184	184	184

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Report Generated: 02/10/12 09:03

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## Attachment D SO2 Data with Excluded Bias Adjustment Factor July 1, 2011 through December 31, 2011